# Polarization Insensitive Isolator for Aerospace and Submarine

**Specifications：**

| Type | Single stage | Dual Stage |
|---|---|---|
| Operating wavelength (nm) | 1310,1550 | |
| Bandwidth(nm) | ±15 | |
| Isolation @23℃(dB) | ≥30 | ≥45 |
| Insertion Loss @23℃ (dB) | ≤0.50 | ≤0.70 |
| PDL @ 23℃ (dB) | ≤0.05 | ≤0.10 |
| PMD (ps) | ≤0.2 | ≤0.05 |
| Return loss (dB) | ≥60/55 | |
| Power handling (mW) | ≤500 | |
| Fiber Type | SMF-28e | |
| Operating temperature (℃) | -40~ +85 | |
| Storage temperature (℃) | -40 ~ +85 | |
| Dimensions (mm) | Φ3.0×L25 | |

## High Reliability

| Item | Experiment Term | Experiment Standard |
|---|---|---|
| High Temperature Storage | Temperature +85 ℃ to ±3 ℃ | 5000 hrs |
| Low Temperature Storage | Temperauture -55℃ ±3 ℃ | 5000 hrs |
| High Temperature high Humidity | Humiditry +85 ℃ to ±3 ℃ | 2000 hrs |
| High/Low temperature Cycle | Temp range -40℃-+ 85 ℃, change temperature ratio ≥5℃/min<br>storage temperature time: 30 min | 1000 cycle |
| Temperature shock | temperature range -55℃ -+85 ℃<br>storage temperature time: 30 min<br>High temp and Low temp shift time ≤5min | 10 times |
| Mechanical Shock experiment | Wave shape:half sine wave, direction: 6 direction (3 axis)<br>speedy peak:1500g, Pulse last time 6-8ms | each direction 5 times |
| Mechanical vibration experiment | wave shape: sine wave, direction: widthwise and longitudinal<br>speedy peak :20g , frequncy range 20-2000Hz<br>last time :4 min/time | each direction 4 times |
| Fall off experiment | Height 1.8m, Ground: concrete ,package:bare fiber | 18 times |
| Seal check | start pressure 0.2Mpa<br>add pressure time 2hrs | $<1.0x10^{-5}$ pa.$m^3$/s |
| in Line testing for high Low temperature | Temperture range -40 ~ +85 ℃<br>storage time 5 min | 0.002dB/℃ |